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EXAMINER	
TORRES, JUAN A	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/044,207	MONI ET AL.	
	Examiner	Art Unit	
	Juan A. Torres	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

In view of the remarks and the amendment filed on 04/14/2006, the Examiner withdraws Drawings objections of the previous Office action.

Specification

In view of the remarks and the amendment filed on 04/14/2006, the Examiner withdraws Specification objections of the previous Office action.

Response to Arguments

Regarding Rejections under 35 USC 112 first paragraph:

Applicant's arguments filed on 04/14/2006 have been fully considered but they are not persuasive.

The Applicant contends, "(¶ 39). To spatially reduce the images of the incoming stream and generate a new video stream, the transcoder uses parameters that were extracted from the input stream. (¶ 36). These parameters can include, for example, motion vectors and associated flags (e.g., intra, forward, backward, quant and pattern flags). (¶¶ 41, 46). As further described when a B frame is encountered, the backward flag is set to 1. Accordingly, the originally filed description teaches setting a backward flag based on a B frame, when a transcoder is spatially reducing a picture size. While the Language within the specification is not precisely the same as that used in the claim, Applicants submit that the clear description of the use of the B frame to set a backward flag used by a transcoder in spatially reducing a picture size provides

sufficient detail such that one skilled in the art can reasonably conclude that the inventor bad possession of the claimed invention"

The Examiner disagrees and asserts, that, as indicated in the previous Office action, claims 1-60 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification doesn't disclose "spatially reducing images of the incoming video stream by a selected factor, and such that the at least one B frame is considered during the spatially reducing images" and that "the spatially reduced images in the new video stream include at least one B frame"

For these reasons and the reason stated en the previous Office action, the rejection of claims 1-60 under 35 USC 112 first paragraph is maintained.

Regarding Rejections under 35 USC 102(e) and 103(a):

Applicant's arguments filed on 04/14/2006 have been fully considered but they are not persuasive.

The Applicant contends, "Panusopone clearly does not teach or suggest "spatially reducing images of the incoming video stream by a selected factor, and such that at least one B frame is considered during the spatially reducing images," or wherein "the spatially reduced images in the new video stream include the at least one B frame" particularly in combination with the other recited claim elements".

The Examiner disagrees and asserts, that, Panusopone discloses a spatial transcoding form MPEG2 to MEPG4 that with B frame enable (figure 4 column 7 lines 9-12 and 24-31), such that at least one B frame is considered during the spatially reducing images and where the spatially reduced images in the new video stream MPEG4 includes the at least one B frame (figure 4 column 8 lines 18-34; column 21 lines 17-26).

For these reasons and the reason stated en the previous Office action, the rejection of claims 1-60 under 35 USC 102(e) and 103(a) are maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-60 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification doesn't disclose that "at least one B frame is considered during the spatially reducing images" and that "the spatially reduced images in the new video stream include at least one B frame".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the Un
> ited States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-59 rejected under 35 U.S.C. 102(e) as being anticipated by Panusopone et al. (US Patent 6647061).

As per claims 1, 19, 39, and 58, Panusopone discloses a system, method, transcoder, and program for transcoding an incoming video stream to reduce the bit rate of the video stream comprising decoding the incoming video stream that includes at least one B frame, where parameters of the incoming stream are extracted from it and used in generating a new video stream (column 7, line 10 to column 8 line 4; tables 2-6, figure 4), spatially reducing images of the incoming stream by a selected factor such that the at least on a B frame is considered during the spatially reducing images (column 4, lines 26-42; column 7 lines 24-31; column 14, line 55 to column 15, line 63, column 17 line 56 to column 18, line 34), generating a new video stream that includes spatially reduced images using one or more of the parameters extracted (column 17 line 56 to column 18, line 34), where less than all of the parameters of the incoming video stream are recomputed for the new video stream, and where the spatially reduced images in the new video stream include at least one B frame (figure 4 column 8 lines 18-34; column 4, lines 29-42; tables 2-6).

As per claim 2, Panusopone discloses claim 1, Panusopone also discloses spatially reducing images of the incoming video stream by a selected factor further

comprises re-sampling the incoming video stream after is has been decoded (column 4, lines 29-42; figure 4 column 8 lines 18-34; column 15, line 64 to column 18, line 34).

As per claims 3, 20, 38, and 40, Panusopone discloses claims 1, 19, 33 and 39, Panusopone also discloses scaling f-codes of the incoming video stream as the f codes is decoded, and scaling the f codes of the incoming video stream after decoding an entire picture of the video stream (column 15 line 65 to column 18, line 34, tables 2-6, figure 4).

As per claims 4, 22, and 41, Panusopone discloses claims 1, 19 and 39, Panusopone also discloses determining a macroblock (MB) type for each MB of the new video stream (column 7, lines 52-59; column 15, lines 42-63; column 17 line 56 to column 18 line 34; table 5).

As per claims 5, 23, and 42, Panusopone discloses claims 4, 22 and 41, Panusopone also discloses determining a MB type for each MB of the incoming video stream that maps to a particular MB of the new video stream, where the MB type of the MBS from the incoming video stream are included in the parameters of the incoming video stream (table 5), weighting each MB type of the MBs in the incoming video stream according to their contribution to the particular MB of the new video stream; and taking a mean of the MB types from the incoming video stream, and rounding the mean (column 15, lines 42-63), where the rounded mean determines the MB type for the particular MB of the new video stream (column 7, lines 52-59; column 15, lines 42-63; column 17, line 56 to column 18, line 34; table 5).

As per claims 6, 24, and 43, Panusopone discloses claims 5, 23 and 41, Panusopone also discloses determining other flags associated with the MB type (column 15 lines 42-63; column 17, line 56 to column 18, line 34; tables 2-6).

As per claims 7, 25, and 44, Panusopone discloses claims 1, 24 and 43, Panusopone also discloses that the flags comprise a quant flag, a forward flag, a backward flag, and a pattern flag (column 14, lines 27-37, table 4, Vop-quant, Vop-fcode-forward, Vop-fcode-backward).

As per claim 8, Panusopone discloses claim 1, Panusopone also discloses selecting motion vectors for each picture that requires motion vectors (column 4, lines 27-42; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55 to column 15, line 63; column 17, line 56 to column 18, line 35; column 21 lines 17-27, table 5).

As per claims 9, 26 and 45, Panusopone discloses claims 1, 19 and 39, Panusopone also discloses determining a value of the MVs from the MVs of the incoming video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14 line 55 to column 15 line 63; column 17 line 56 to column 18 line 34; column 21 lines 10-21; table 5).

As per claims 10, 27, 34, 46, and 53, Panusopone discloses claims 9, 26, 33, 45 and 52, Panusopone also discloses determining a weighted mean scale value of the MVs from MVs of the incoming video stream that map to a particular MB of the new video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5).

As per claims 11, 28, 35, 47, and 54, Panusopone discloses claims 8, 26, 33, 45 and 52, Panusopone also discloses selecting candidate MVs for a particular MB of the new video stream, where the candidate MVs comprise scaled MVs from the incoming video stream and a weighted men scaled vector; and determining a best MV from the candidate MVs, where the best MV provides a best fit to the data (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5).

As per claim 13, Panusopone discloses claim 8, Panusopone also discloses selecting weighted mean scaled MVs; selecting scaled Mvs of the incoming video stream', and selecting field vectors (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5).

As per claim 14, Panusopone discloses claim 1, Panusopone also discloses generating a new video stream further comprises determining flags of the new video stream from the flags of the incoming video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5).

As per claims 15, 30, and 49, Panusopone discloses claims 14, 19, and 45, Panusopone also discloses determining a Discrete Cosine Transform (DCT) type flag using a weighted mean rounded procedure (column 3, lines 56-64; column 4, lines 43-61; column 7, lines 53-68; column 13, line 33-38; column 16, line 20 to column 17, line 55; table 6).

As per claim 16, Panusopone discloses claim 1, Panusopone also discloses determining a quantizer scale of the new video stream using a quantizer scale of the incoming video stream (column 5, lines 5-20; column 6, lines 59- 68; column 7, lines 33-68; column 13, line 44-column 14, line 54; table 3).

As per claims 17, 31, and 50, Panusopone discloses claims 16, 19 and 49, Panusopone also discloses a weighted mean rounded procedure; a weighted max rounded procedure; a weighted min rounded procedure; a weighted median rounded procedure (column 5, lines 5-20; column 7, lines 33-68; column 13, line 44- column 14, line 54; table 3).

As per claims 18, 32, and 51, Panusopone discloses claims 1, 19 and 39, Panusopone also discloses determining a coded block pattern (column 14, lines 27-37).

As per claim 21, Panusopone discloses claim 19, Panusopone also discloses determining other flags associated with the MB type (column 15, lines 42-63; column 17 line 56 to column 18,line 34; tables 2-6). The flags comprise a quant flag, a forward flag, a backward flag, and a pattern flag (column 14, lines 27-37, table 4, Vop-quant, Vop-fcode-forward, Vop-fcode-backward).

As per claims 33 and 52, Panusopone discloses a system and program for transcoding an incoming video stream to reduce the bit rate of the video stream, comprising decoding the incoming video stream, where parameters of the incoming stream are extracted from it and used in generating a new video stream (column 6, line 23 - column 7, line 31; tables 2-6; figure 4), spatially reducing images of the incoming stream by subsampling the incoming video stream considering at least one B frame

(column 4 lines 44-61; column 15 line 64 to column 16, line 19), generating new MVs for each MB of the new video stream that requires MVs using MVs from the incoming video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5), determining MB type for each MB of the new video stream, where the MB type is a weighted mean rounded value determined from the MBs of the incoming video stream that map to a particular MB of the new video stream (column 7, lines 52-59; column 15, lines 42-63; column 17, line 56 to column 18, line 34; table 5), generating a new video stream, using the new MV, new MB types, the stream parameters, that includes spatially reduced images using one or more of the parameters extracted (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5), where less than all of the parameters of the incoming video stream are recomputed for the new video stream and where the spatially reduced images in the new video stream include at least one B frame (figure 4 column 8 lines 18-34; column 4, lines 29-42; tables 2-6).

As per claims 37 and 56, Panusopone discloses claims 33 and 52, Panusopone also discloses that determining flags of the new video stream from flags of the incoming video stream further comprises determining a Discrete Cosine Transform (DCT) type flag using a weighted mean rounded procedure (column 3, lines 56-64; column 4, lines 43-61; column 7, lines 53-68; column 13, line 33-38; column 16, line 20 to column 17, line 55; table 6).

As per claim 57, Panusopone discloses claim 52, Panusopone also discloses scaling f_codes of the incoming video stream as the f_codes is decoded, and scaling the f_codes of the incoming video stream after decoding an entire picture of the video stream (column 4, lines 27-61; column 6, lines 1-21; column 8, lines 38-47; column 14, line 55- column 15, line 63; column 17, line 56 to column 18, line 34; column 21, lines 10-21; table 5).

As per claim 59, Panusopone discloses claim 58, Panusopone also discloses f-codes (column 18 line 35-column 21, line 6; tables 2-6); MVs (column 4, lines 27-61; column 6, lines 1 –21; column 8, lines 38-47; table 5); MB type (column 7, lines 52-59); motion type (column 4, lines 27-61; column 6, lines 1 –21; column 8, lines 38-47; table 5); motion vertical field select (table 5); forward prediction type (column 4, lines 27-61; column 6, lines 1-21; table 5); backward prediction type (column 4, lines 27-61; column 6, lines 1-21; table 5); DCT type (column 7, lines 53-68); quantizer scale (column 7, lines 33-68); coded block pattern (column 14, lines 27-37); and DCT coefficients (column 7, lines 53-68).

As per claim 60, Panusopone discloses claim 1, Panusopone also discloses that the new video stream includes at least one B frame (abstract figure 4; column 7 lines 10-12).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12, 29, 36, 48, and 55 rejected under 35 U.S.C. 103(a) as being unpatentable over Panusopone, further in view of Wee et al. (Secure Scalable Streaming Enabling Transcoding Without Decryption, IEEE International Conference on Image Processing, October 2001). Panusopone discloses claims 8, 26, 35, 45 and 54, Panusopone doesn't disclose performing fine grain motion estimation for the MVs. Wee teaches fine-grain motion estimation for MVs (Wee, 4.3). Panusopone and Wee are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the fine-grain estimation disclosed by admitted prior art with the video transcoder disclosed by Panusopone. The suggestion/motivation for doing so would have been to enhance the quality video stream transcoding (Wee 4.3). Therefore, it would have been obvious to combine Panusopone with Wee to obtain the invention as specified in claims 12, 29, 36, 48, and 55.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Linzer (US 6141447 A) also discloses a compressed video transcoder using B frames.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE**

FINAL even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
05-08-2006

TEMESGHEN GHEBRETINSAE
PRIMARY EXAMINER